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## THE PECUNIARY ECONOMY OF FOOD.

UNDER this attractive title there appeared in the January *Century* an article from the pen of Prof. W. O. Atwater, in which he propounded to the American people this question:—

"Is not the American, of all civilized men, the most wasteful, and is not his worst wastefulness in his food—and drink?"

This question comes closely home to nearly all classes; no more to the coal-laborer who made his boast, "No one can say that I do not give my family the best of flour, the finest sugar, the very best quality of meat," than to the affluent whose every desire can be gratified without pecuniary embarrassment.

Said a millionaire to two young merchants, "If you cannot afford to eat mackerel, eat herring." Therein was hidden the secret of his success in acquiring fame and fortune. His wife was his co-laborer, a rigid economist, and yet she confesses her inability to overcome the wasteful habits of her kitchen servants.

Even those who preach the doctrines of Him who bade His disciples "gather up the fragments that remain, that nothing be lost," are wasteful.

A butcher in Philadelphia who has been supplying the laboring-class with meat for a number of years, informs me that five years ago there was a quick sale for all the cheap cuts, but now so universal has the habit become of buying the more expensive cuts, that there is no market in his neighborhood for low-priced meat.

A former president of the West Washington Market Association stated that it is the impecunious class that is most exacting regarding their meat-supply. They demand the most expensive cuts, while people in possession of an ample competency study economy in the purchase of their supplies.

In a neighborhood where the Scotch laborer predominates, I am informed that they buy the cheaper cuts, and make the most economical use of them, while the Irish in the same locality are universally wasteful. A gentleman formerly prominent in the Massachusetts State Board of Health, and of extended experience in studying all subjects connected with food, states that no greater truth has been uttered before the American people in recent years than that made by Mr. Edward Atkinson, that "if the people of this country would knock the bottom out of the American frying-pan, they would have one-third more money to spend for rent than they now have."

We plead guilty. Are not American dogs sleek and fat? Wherever there is a profusion of food, there you will find fat dogs; while in countries where the supply is scant, or where economy in food is compulsory, dogs are lean and hungry; for instance, as in Turkey.

We confess that there is, on the part of the average American and his imported allies, a prodigious waste of food,—in its purchase, its preparation and use.

"O wad some power the giftie gie us,  
To see oursels as ithers see us!  
It wad frae monie a blunder free us,  
And foolish notion."

These lines prompted us to put the above question to a Frenchman, for many years master of the household of one of the crowned heads of Europe, a professional cook, a man of extensive travel, and at present, as for several years past, engaged in this country in the preservation and manufacture of food-products. And thus he replied: "Is there waste? Yes, in all directions. I never saw any thing like it. Tables are overloaded. There is too much of every thing. This waste is most notable at hotels, where it is so marked as to be ridiculous.

"You Americans seem to take very little pleasure at the table. You gobble up your food, or else take it as if it were medicine. Then there is no variety to the American table. A few articles are served day after day. Your *menu* is the same everywhere,—beef-steak, ham and eggs, pork chops, sausages, pancakes, and pie. Last summer, in a trip to Bar Harbor, my daughter kept an account of the number of times beefsteak appeared upon the table, reporting upon her return that seventy-two times it was the main article served. In France the higher classes thoroughly understand the value of food. There is no waste, no loss in the kitchen. The clean remnants from the tables of the higher classes are purchased, overhauled, and sold in the market to the poorer classes, who waste more than the better, largely through ignorance. In France it is

considered sufficient to serve one kind of vegetable with meat; but here in the United States, if four or five sorts are in season, you will be pretty certain to find three or four of them upon the table at once. Bad cooking is one reason for this great waste. The art of using the unsoiled remnants from a meal is not understood. These can be prepared in many ways, and so nicely disguised as to come to the table a second time in an attractive manner. Americans fail in this respect, because in the first cooking of meat it is overdone, so that, when subjected to a second cooking, it is made unpalatable. Faulty carving has also much to do with the universal waste of food."

Is this waste wilful? We are not prepared to answer affirmatively, or to indorse the statement that Americans are indifferent, and manifest an aversion to food-economizing. Waste may be, as claimed, epidemic in the United States; but it is not so through universal ignorance, although a portion of it may be so charged. That seems like a libel on the thrift and industry of the early settlers of New England, whose work and influence are felt throughout the United States. In new countries, where the reward of industry is unusually liberal, time is of great value. In Australia, where fortunes are made quite as rapidly, if not more so, than in this country, there has been a prodigious waste of food. There, as well as here, time is of greater value than in continental Europe.

There is no true economy in saving twenty-five cents' worth of nutriment when the time it requires is worth in other directions a greater sum. Many waste food because they will not or can not take the time for the proper preparation of the cheaper sorts. To make the most economical use of food requires time and trouble. It is easier to broil the toothsome sirloin or porter-house than to boil or stew some cheaper cut. We find that the wife of the coal-laborer who furnished his family the best of every thing on seven dollars a week, "had to cook before six in the morning, or after half-past six at night, because she worked all day in the factory." Her time was worth more in the factory than in the home. This probably accounts in some measure for the waste on the part of wage-earners, the balance being attributed to ignorance, or, as Professor Atwater puts it, "innocently committing an immense economical and hygienic blunder."

This waste, so common to Americans, seems an anomaly in view of the fact that in every direction the laborer is taught by the capitalist that it is only by the most rigid economy that profit is gained. Thus we find that a huge monopoly, as the Standard Oil Company, is constantly demonstrating to its laborers that ninety per cent of the crude oil received is manufactured into products having a commercial value. In the large hog-slaughtering houses throughout the United States, it is said that every thing connected with the hog except the squeal is saved. In the large abattoirs even the blood is saved, and utilized for fertilizing purposes.

It is by giving a commercial value to the little things which a few years ago were wasted, that large corporations are enabled to pay dividends. And yet, with this economical lesson constantly before all wage-earners, there goes on an enormous waste of food. The capitalist who enforces economy in his factory is in his house as much a sinner as his uneducated workman. Can it be accounted for in any other way than that time in the United States has a greater value than in any other country, and that at this period of our history it is worth more in other directions than in demonstrating the pecuniary value of food? That eminent student of economic science, Mr. Edward Atkinson, says that nowhere else are the products of labor and of capital so adequate and so ample as in the United States, and that nowhere else are wages and profits so high.

"Necessity is the mother of invention," and therefore we believe that when time is of less value in the United States than at present, and there is greater necessity for economy in the use of food, the average American will lead in getting the maximum amount of proteine at the minimum of cost.

This waste can be and is being checked. It is not as great as it was twenty years ago. The press fairly teems with books and journals devoted to household economy. There is an enormous demand for this sort of literature, so great that every newspaper devotes space to the subject. Through these mediums, the cooking-school and the instruction in cooking in the public schools, the

people, and especially the rising generation, are being taught the pecuniary value of food. The mass of the people do not realize the extent of waste now going on. It can be more fully brought to their attention when the pulpit seconds the press, and the preachers themselves learn the pecuniary value of food, and urge it upon those to whom they minister. When we are taught that it is sinful to waste, we shall be more apt to imitate the French, and have a greater variety of food, at less expense, with more leisure for the economical housewife.

Since 1865 the United States has led all other countries in the preservation of food in hermetically sealed tins. Every variety of soup, meat, fish, poultry, game, fruits, and vegetables is available at any season of the year.

The people are very rapidly learning "the pecuniary economy of such food" as compared with a like quantity of the same articles in a fresh condition. For instance: a one-pound can of the finest salmon in the world, packed on the Columbia River within a few hours of the time the fish is captured, costs the consumer 20 cents. He is thus enabled to secure nutrients at a cost of 55 cents per pound, which in fresh salmon at 35 cents per pound, as ordinarily obtained in city markets, would cost \$1.40 per pound. Until recently this has been appreciated to a far greater extent in England than here. In this country, five years ago, there were consumed 16,000,000 tins of salmon. Since then each year has recorded a rapid increase in the quantity used, until last year 24,500,000 tins, or more than one-half the supply, were taken for home consumption. England is the chief buyer of American tinned meats, simply because consumers at home do not fully realize that a greater amount of nutriment for a given sum can be obtained in that way than from a like quantity of fresh meat at a far greater cost.

The waste of Southern cotton-fields is now being transformed into wholesome and cheap food, and destined, as W. Mattieu Williams believes, to take the place of lard as a frying-medium. We need not further specify in order to prove, that, as a people, we are making progress in the direction of checking waste, and that as population becomes more dense, time of less money-value, and the necessity for economy greater, we shall master the full meaning of 'the pecuniary value of food.'

F. N. BARRETT.

#### ST. PETERSBURG LETTER.

RUSSIAN chemical literature has been enriched this winter by two considerable works, though of unequal value, — Mendeleef's work on solutions, and Menshutkin's 'Essay on the Development of Chemical Theories.' In the former book the celebrated Russian chemist gives a considerable account of his own work, together with a clear exposition of the views of other chemists. I cannot attempt to analyze it here, but mention only that he formulates some simple laws in this matter, which will undoubtedly be accepted by the scientific world. Menshutkin's book leads us from the phlogiston theory to the views of the present generation of chemists. The last chapters are the best. The author has for some years been engaged in the arduous task of measuring the time and other conditions of chemical re-actions. The second edition of Beilstein's 'Handbuch der Chemie,' published, like the first, at Leipzig, is rapidly advancing. Though rather a compilation, it is an exceedingly useful book, and it is scarcely credible that it should be the labor of one man. The author has been for more than twenty years professor of chemistry, and director of the chemical laboratory of the Technological Institute at St. Petersburg.

Professor Mendeleef received a short time ago an official mission to the Donetsk coal-basin. The mine-owners petitioned for it, representing that his work on the petroleum question proved him to be equally competent in the scientific and economic aspect of it.

Russia has to deplore the early death of a man who has already done much for science, and could be expected to do more, — the zoölogist M. Bogdanow, professor of zoölogy at the University of St. Petersburg. Born in 1841, educated at the Kazan University, where he finished his studies in 1864, he came to St. Petersburg in 1871, and remained professor till his death, March 16, 1888. Mammals and birds, and their geographical distribution, were his principal studies, especially the latter. His two greatest works are, 'The Birds of the Caucasus,' published in 1885; and 'Russian

Ornithology,' the first part of which appeared in 1885. He travelled extensively, especially in eastern Russia, the Caucasus, and to Khiva and the surrounding deserts, and gave some of the best descriptions of these countries to be found anywhere. For some years he was very much interested in economic zoölogy, especially in the breeding of domestic birds. As professor he was exceedingly popular, and some of his pupils have already done good work.

The results of the past 'geographical campaign' were not brilliant, as no first-class geographical expedition was in the field. It is to be hoped the current year may give more. General Prejevalsky is here, and hopes to start again for Tibet in August or September, 1888, to equip the expedition, buy camels at Karakol, near Lake Issyk-Keel, and then go via eastern Turkestan. A money-grant from the government will certainly not be refused for his expedition, on account of the high scientific character and political importance of the former.

He has brought with him the manuscript of the narrative of his fourth journey, which is soon to be published. As to the special reports on botany, zoölogy, etc., they are in the hands of specialists, and some of them will take considerable time.

Potanin is now at Irkutsk, having accepted the position of secretary of the East Siberian branch of the Russian Geographical Society. He is occupied in writing the report of his last extensive journey to western China, Mongolia, etc., and is not likely to start very soon on a new expedition.

As to the work of the Russian Polar Commission, the report on terrestrial magnetism at Sagastyr, at the mouth of the Lena, will soon be issued, while the additional observations will not be issued until some years later. The reason is, Lieutenant Jurgens has been ordered to embark for Vladivostok, and will have no time for the discussion of the Sagastyr observations for two or three years.

The council of the Imperial Russian Geographical Society have decided to grant money for the fall expedition in 1888: Kousnezow to the northern Caucasus, Kossikow to the south-western Caucasus. Both will study the glaciers. The latter goes principally for studies on mammals and birds. Adrianow will go to the Altai, Colonel Grombtschewsky to the Pamir, Listow to the Crimea, where he did good work in 1887. An expedition which is not entirely decided upon is that of the astronomer Baklund, and geologist Kudriawtsew to the Kola Peninsula. The geologist Iwanow, well known for his explorations of the Pamir, is to start in a few days for Vladivostok, for a two-years' exploration of the vicinity, the Sichota-Alin Mountains, and southern part of the Ussuri basin, the principal aim being the discovery and exploration of coal-mines.

The Meteorological Commission of the Geographical Society is doing good work, and now organizing some stations which will make observations which may be useful to agriculture; viz., actinometric, and on the temperature of the soil from the surface to a depth of two metres. The most interesting of these stations is that proposed at Sultan-Bend, on the Murghab River, south of Merv, where a great dam is to be built across the river, and the water retained to irrigate 300,000 hectares of the most fertile land. Extensive cotton-culture is contemplated on the land thus redeemed from barrenness, as in that country no culture is possible without artificial irrigation.

The depression of agriculture and low prices are the topic of the day, and often discussed in more or less learned societies; but it would be difficult to give a brief account of them, and most of the discussion is of no scientific value.

The season from January to the middle of March has been a rigorous one also in the north of Russia. The frosts were remarkable for their persistency more than for their rigor. From the 7th of January to the 22d of March there was no thaw at St. Petersburg, yet the air-temperature did not sink below  $-29^{\circ}$  C. It fell much lower in February, 1867 ( $-33.5^{\circ}$ ); January, 1868 ( $-38.0^{\circ}$ ); February, 1871 ( $-36.3^{\circ}$ ); and December, 1876 ( $-37.6^{\circ}$ ). It sank below  $-30^{\circ}$  even in March, 1867 and 1877.<sup>1</sup> For many days in January, February, and March the coldest region was southern and central Finland, the cyclones passing south of it. Thus in the north we did not have the fearful snow-storms which were experienced nearer to the centre of the cyclones in central and southern

<sup>1</sup> In all these cases not the minimum temperature, but the lowest of those observed by observations made thrice a day, are given.